

WHAT IS CLAIMED IS:

1. A shear wall comprising:

an upper channel;

a lower channel;

5 a plurality of spaced-apart studs connected between the upper channel and

the lower channel, the plurality of studs including a first stud connected to the

upper channel near a first end of the upper channel to form a first corner and

connected to the lower channel near a first end of the lower channel to form a

second corner, a second stud connected near a second end of the upper channel to

10 form a third corner and near a second end of the lower channel to form a fourth

corner, and a plurality of interior studs spaced between the first and second studs,

each of the interior studs having at least two holes formed therein and having a

front face and a rear face;

a first rod connected to the wall near the first and fourth corners; and

15 a second rod connected to the wall near the second and third corners;

wherein each of the first and second rods pass through one of the two holes
in each of the interior studs such that neither the first rod nor the second rod extend
past the front face or the rear face of any interior stud.

2. The shear wall of Claim 1, wherein the studs and channels are made
20 from steel.

3. The shear wall of Claim 1, wherein each end of the first and second rods
is attached to an upstanding plate at each of the four corners of the wall.

4. The shear wall of Claim 3, wherein each upstanding plate is integrally
formed with a base plate to form a T plate.

5. The shear wall of Claim 3, wherein each end of the rods is threaded, and wherein a first end of each rod has a right hand thread, a second end of each rod has a left hand thread, and wherein each upstanding plate has a block attached to it, the block having a hole threaded to mate with a respective threaded end of a rod.

5 6. The shear wall of Claim 5, wherein blocks corresponding to the first rod are attached to a first side of a respective upstanding plate and blocks corresponding to the second rod are attached to an opposite side of a respective upstanding plate such that the first and second rods do not interfere with each other where they cross.

10 7. The shear wall of Claim 1, further comprising a first anchor plate connected to a top of the wall near the first corner and a second anchor plate connected to the top of the wall near the third corner.

8. The shear wall of Claim 7, wherein each of the anchor plates has a plurality of threaded holes formed therein.

15 9. The shear wall of Claim 8, wherein the threaded holes formed in the anchor plate are formed by welding a threaded nut to the anchor plate.

10 10. The shear wall of Claim 7, further comprising a first hollow spacer connected between the wall and an anchor plate near the first corner and a second hollow spacer connected between the wall and an anchor plate near the second
20 corner.

11. The shear wall of Claim 1, wherein at least one of the rods includes a turnbuckle, whereby the rod may be tensioned by adjusting the turnbuckle.

12. A light gauge steel shear wall comprising:
an upper channel;

a lower channel;

a plurality of spaced-apart studs connected between the upper channel and the lower channel, the plurality of studs including a first set of ganged studs connected at one end to a first end of the upper channel to form a first corner and
5 connected at an other end to a first end of the lower channel to form a second corner, a second set of ganged studs connected at one end to a second end of the upper channel to form a third corner and connected at an other end to a second end of the lower channel to form a fourth corner, and a plurality of interior studs in a spaced apart relationship between the first and second studs, each of the interior
10 studs having two holes formed therein and having a front face and a rear face;

a T plate near each of the first, second, third and fourth corners, each of the T plates comprising integrally formed base plates and upstanding plates, the base plates being positioned inside respective channels, each of the upstanding plates including a block having a threaded hole, each threaded hole having a thread in a
15 direction opposite of a direction of a thread in a threaded hole in a diagonally opposite corner, threaded blocks in diagonally opposite corners being positioned on a same side of respective upstanding plates, the same side being opposite a side of the upstanding plate on which blocks are attached in other corners;

a first rod with threaded ends mated to blocks in the first and fourth
20 corners; and

a second rod with threaded ends mated to blocks in the second and third corners;

wherein each of the first and second rods pass through one of the two holes in each of the interior studs such that neither the first rod nor the second rod extend past the front face or the rear face of any interior stud.

13. The shear wall of Claim 12, further comprising
5 a hollow rectangular member welded to a top surface of the upper channel;
a first spacer attached to the hollow rectangular member at the first corner;
a second spacer attached to the hollow rectangular member at the third
corner;

a first anchor plate attached to the first spacer; and
10 a second anchor plate attached to the second spacer;
wherein each of the anchor plates has a plurality of holes formed therein
and a plurality of nuts attached thereto, one of the plurality of nuts being attached
to the anchor plate at a location corresponding to one of the plurality of holes such
that a bolt may pass through the hole to mate with the nut.

15 14. A method of constructing a structure comprising the steps of:
installing a floor over a first light gauge framed shear wall, the shear wall
having an upper surface having a first end and a second end, each of the first and
second ends having a hollow spacer attached thereto, each of the hollow spacers
having an anchor plate attached thereto, each of the anchor plates having a plurality
20 of threaded holes positioned such that nuts mating with the threaded holes pass
through the threaded holes into an inside of the spacer, the floor being installed
such that it has a top surface even with a top of the anchor plate; and

installing a second light gauge framed shear wall over the top surface of the
floor, the second light gauge framed shear wall being bolted to the anchor plate.

15. The method of Claim 14, wherein each of the shear walls includes a pair of rods having threaded ends, a first end of each rod having a thread with a direction opposite a direction of a thread on a second end of the same rod, the ends of each of the rods being mated to matching threaded holes in diagonally opposite corners of the wall;

further comprising the step of turning each of the first and second rods in a direction that places the rods under increased tension.

16. The method of Claim 15, wherein the turning step is performed on the second shear wall after the floor is installed.

17. The method of Claim 14, wherein the floor is formed of concrete and further including the step of screeding the concrete to a top of the anchor plate.

18. A method for installing a shear wall comprising the steps of:

attaching a shear wall to a floor, the shear wall including a plurality of vertically oriented studs, the shear wall having four corners, diagonally opposite corners being connected by first and second rods, each of the first and second rods passing through a hole in each of the studs such that neither the first rod nor the second rod extends past an exterior or interior face of the studs, each of the first and second rods having a first end and a second end, the first end being threaded in a first direction and the second end being threaded in a second direction opposite the first direction; and

rotating the rods to place the rods under tension.

19. The method of Claim 18, further comprising the step of attaching a material over at least one of the interior and the exterior faces of the studs.

20. The method of Claim 19, wherein the material is a panel material selected from a group consisting of drywall and plywood.